(D) REMARKS

REJECTIONS BASED ON SEC. 102

Claims 1-27 are pending (Claims 1, 10, 17, 25 and 27 are independent). All claims have been rejected.

Claims 1, 3-6, 8-13, 17, 19, 22, 23, 25 and 27 were rejected under 35 U.S.C. 102(b) by U.S. Pat. No. 5,627,980 (Schilit).

One need go no further than Schilit's Abstract to find that there is a major distinguishing factor, and related claim elements, between Schilit and the present invention as described and claimed. Schilit describes:

"A method for accessing members of an ***ordered*** data set . . .."

A litany of the problems which a computer user may encounter with on-screen menus in real-time is provided by Schilit at Col. 1, ll.38 - 55. His solution is a substitution of an on-screen ellipsis in place of portions of a display of the entire "ordered data set" in which the user accesses non-displayed members of the set by clicking on the ellipsis. In other words, take the simple example of the English alphabet being a known, "ordered data set." In his solution, Schilit substitutes an ellipsis 34 on-screen while hiding elements of the data set which a user could, and in fact must, logically deduce, e.g., putting on-screen an iconic:

"a...m...z"

rather than

"abcdefghijklmnopqrstuvwxyz"

and then allowing the user to access hidden elements by pointing to the ellipsis, which results in the popping up the hidden elements represented thereby from which the user can select. Col. 5, ll. 25-67, relied upon by the Examiner. Note carefully, this *requires a given ordering* of elements logical to user to start with, i.e., an ordered list or obvious logical progression of elements known to the user. *The user must know or at the least suspect what is between selected and displayed pieces of the data set.* In this alphabet example, it is intuitively obvious exactly what comes between "a" and "m" and "m" and "z" and the logical order thereof at all times. Thus, with Schilit, a data set of interest *must be an ordered set* to which the user must apply his own intuitive knowledge or deductive reasoning to understand and use. Schilit's input is thus an *ordered* list which the user turns into a more relevant set of objects-of-interest by drilling down through the ellipsis to select and display other members of the set.

However, suppose the data set is an unordered set of photographs, each having a file identification (ID) name, e.g, "white cat," "Russian Blue cat," "dog Pug," "Snapper Turtle," etc. With Schilit, picking one photograph would not result in any prediction of the user's interest, but merely would highlight that selected photograph's screen display icon.

To the contrary, with the present invention as described and claimed (hereinafter referred to more simply as just "Forman"), unordered data sets are clearly manageable. To use the same example of a set of photographs, supra, in accordance with Forman, the methodology may learn and highlight all "cat" pictures if "white cat" were previously selected, all amphibian pictures if "Snapper Turtle" were previously selected, and the like. As described in [0018] and set forth for example in claim 1 of Forman, the present invention may comprise, "...receiving information related to a *navigation goal* wherein the goal is potentially related to at least one of the choices; *...classifying said information* with respect to said structure and for *providing a recommendation* as to at least one of said choices more likely *to lead towards said goal*;... and...*providing feedback indicative of said recommendation."* Schilit in no way discloses such ability of prediction technology related to personal goals; in its fundamental aspect, Schilit is only displaying a previously selected choice.

Moreover, demonstrating another important distinction, note that Schlit takes as input a "non-hierarchical" list of items and generates a two-level hierarchy, only displaying the items and ellipses of the upper level. It can not take as input a hierarchical structure such as a company organization chart. To the contrary, a Forman embodiments are for "navigating organizational structures" (Title) from a given, but unordered - - a non-linear - - data set as the input data set, e.g., a hierarchical structure .

> [0024] Thus, "starter information," that is, given both information from a user and a set of choices (ideally but not necessarily organized into a hierarchy such as a menu tree) and, using a classifier program, a recommendation is made as to what is the next best choice for navigating the set of choices, or, more generally, the degree to which any choice at a current level is supported by the available information, i.e., a probability of success associated with each currently available choice. An interactive interface is provided between the user and the set owner (e.g., an Internet web directory) that dynamically feeds back the results of classification to the user at each navigation step, i.e., specifying probabilities, suggesting choices, or highlighting the best choice(s) or the path(s) most likely leading to the best ultimate choice).

Continuing with a company organizational chart example, with Schilit, even when the user has highlighted more than endpoints of a given data set, e.g., a company list of employees, artificially displayed linearly:

> CEO Doe... Contractor Smith...Director of Marketing Sue...Janitor Elvis,

using the Schilit ellipsis-substitution methodology, there will never be obvious nor intuitive ellipses selection points to click on to find another member of the hierarchy since it is a non-linear data set. Furthermore, if the user selects the second of the shown ellipses, Schilit then changes the hierarchy, bringing other members to the upper level. This is technologically nonsensical for an application such as a fixed organization chart of a company.

Furthermore, there is no machine learning component to the Schilit methodology to predict which selections from a data set the user will want. If the user makes a selection such as by

pointing to the ellipsis, waiting for the pop-up/drop-down complete alphabet represented thereby, and then clicking on the "w," then the "w" is merely left on the upper level of Schilit's two-level hierarchy, as it is likely the user will again select "w." Col. 6, ll. 1 - 13, relied upon by the Examiner. More specifically, Schilit is concerned with on-screen "...pull-down or pop-up menus..." (col. 1, ll, 21-22) which come in the form of a "...menu tree 10..." (col. 5, l. 16) , and particularly only intuitively logical "...hierarchical *menu* systems..." (col. 1, ll. 29-30). Thus, Schilit is only attuned for presenting ordered, non-hierarchical lists in his style; it does not work for hierarchical menus of arbitrary Windows programs. For example, if one represent the menu of Adobe Acrobat as "File...Tools...Help," a user still does not know which ellipses to select to find "View." Furthermore, the original hierarchical structure would be lost with Schilit; if a user selects "View/Zoom", Schilit would move it to the upper level and not reflect any logical hierarchy of the program's menus.

To put it simplistically, for example one does not put "hamburgers" in the "desserts" column. Contrary to the present invention, Schilit is not a machine-learning data classification technology. Instead, as admitted in Schilit's own words, it may be thought of as merely a form of data compression to save screen space. See col. 1, ll. 40 - 43, "small screen display...only a limited number of characters can be displayed... ."

Again consider the litany of the problems which a computer user may encounter with on-screen menus in real-time provided by Schilit at Col. 1, ll.38 - 55. On the other hand, applicants generally are addressing the altogether different computer field problems (emphases added):

"[0001] ...*topical decision* algorithms and structures...,

"[0002] ...categorizing *different types* of items...,"

"[0009]...navigating through *a large hierarchy*...,"

wherein

"[0010]... An interactive interface is provided between the user and the set owner that *dynamically feeds back the results of classification* to the user...leading to the *best ultimate choice of the set*."

The "output," so to speak, of Schilit is merely an extended version of his input data set, an ordered list with elements added to the initial display as the user selects them; e.g.,

"a...w...z,"

where it is known to the users what lies within the ellipses. *Initial ordering of the data set is always preserved*; "f" is always under the left ellipsis, "x" under the right. It is a user determined methodology. To the contrary, in a basic aspect, the present invention provides a machine-learning based "output" of *best predicted items-of-interest* for a non-ordered data set, e.g., a hierarchy, displaying the best items as a primary set of members of the set which the user is likely to be interested in next based on the described and claimed machine learning techniques. See e.g., Forman, FIG. 1, element 101. Initial ordering of the data set members is neither needed nor necessarily preserved. In fact, a particular implementation of the present invention may be change any semblance of ordering by moving predicted items-of-interest to the top of a listing. See e.g. again, Forman [0018]. This is directly contrary to the teaching of Schilit.[1]

Thus, Schilit does not meet the standard that a valid rejection on the ground of anticipation requires the disclosure in a single prior art reference ***of each element of the claim*** under consideration. Soundscriber Corp. v. U.S., 148 USPQ 298, 301 (1966); In re Donohue, 226 USPQ 619, 621 (Fed. Cir. 1985), emphasis added. With emphasis added below to highlight some of the specific elements not found in Schilit and therefore distinguishing the invention, applicants presently claim:

1. A tool for navigating *an organizational structure* having a plurality choices therein, including a plurality of next available choices, the tool comprising:

computer code means for *receiving information related to* a *navigation goal* wherein the goal is potentially related to at least one of the choices;

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[1] While not yet alleged by the Office with respect to the independent claims, it should be noted for the record and to advance prosecution that proceeding contrary to the wisdom of the prior art is "strong evidence" of non-obviousness. W.L. Gore & Assoc., Inc. V. Garlock, 220 USPQ 303 (CA FC 1983).

computer code means for *classifying said information* with respect to said structure and for *providing a recommendation* as to at least one of said choices more likely to lead towards said goal; and

computer code means for *providing feedback indicative of said recommendation.*

10. A computerized tool for assisting a user with *navigating a large hierarchy structure, having a large plurality of nodes, via classification subprocesses*, the tool comprising:

computer code *for relating information indicative of a goal node to at least first level* nodes of the hierarchy structure;

computer code for classifying said information and *predicting at least one option most likely to advance navigation to a predicted goal* node of said hierarchy structure;

computer code for *highlighting* said at least one *option to said user*;

computer code for *receiving feedback from said user* related to a current choice with respect to said at least one option; and

computer code for *iteratively providing suggestions* including at least one refined suggestion based on *reclassifying said information* each a current choice among said suggestions.

17. A process for navigating through an organizational structure having a plurality of levels and nodes, the method comprising:

receiving targeting data related to said organizational structure;

applying a classifier to said targeting data;

presenting a plurality of choices of nodes wherein said choices are representative of results of said classifier categorizing said targeting data with respect to said organizational structure and wherein said plurality of choices includes at least a subset of said plurality of choices indicating probable solutions to said targeting data;

receiving a selection from said plurality of choices;

iteratively applying the classifier to said targeting data and each said selection until a user target node is reached.

25. A method of *determining a goal node in an organizational structure* having a plurality of nodes, the method comprising:

via a classifier, comparing first data indicative of a user goal node to second data indicative of given organizational structures;

selecting at least one of said structures and a plurality of nodes therein;

providing feedback data indicative of likely nodes related to said goal node such that at least one of said nodes is a target node predicted to be said goal node from a probabilistic analysis during said comparing, and wherein said feedback data allows selection between said likely nodes and said target node.

27. A method of doing business, the method comprising:

receiving from a remote user targeting data related to at least one organizational structure having a plurality of levels and nodes;

applying a classifier to said targeting data;

presenting a plurality of choices of nodes to the remote user wherein said *choices are representative of results of said classifier categorizing said targeting data with respect to said organizational structure and wherein said plurality of choices includes at least a subset of said plurality of choices indicating probable solutions to said targeting data;*

receiving from said remote user at least one selection from said plurality of choices;

iteratively applying the classifier to said targeting data and each said selection until a user target node is selected by the remote user.

There is no anticipation by Schilit with respect to these and other elements of the present invention. It is axiomatic that claims are not to be interpreted in a vacuum. Slimfold Mfg. Col v.

Kinkead Indus.,810 f.2d 1113, 1 USPQ 2d 1563 (Fed. Cir. 1987); Moleculon Res. Corp. v. CBS, Inc., 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986). The claim and specification language must be considered. DMI, Inc. v. Deere & Co., 755 F.2d 1570, 225 USPQ 236 (Fed. Cir. 1985). By ignoring the present application's use of the claims limitations as discussed in the Detailed Description, the argument as set forth in the Action ignores this requirement. Understanding, or interpreting, a limitation *already in a claim* in light of the Detailed Description is not the same as an impermissible reading of a limitation into a claim. Otherwise, these court decisions are rendered meaningless. This need for consideration of "specification language" is particularly applicable in computer process cases where terms may carry a special rather than ordinary (dictionary) meaning. For example, the Action seems to interpret the term "organizational structure" of Claim 1 of the present application as meaning "anything which can be organized," e.g., Schilit's non-hierarchical, ordered list, rather than the way it is used in the specification. This violates the case law precedents just cited.

REJECTIONS BASED ON SEC. 103

At Page 4 of the Action, dependent claims 2 and 18 were rejected as obvious under 35 U.S.C. 103 again under Schilit.

A dependent claim includes all the limitations of the claim from which it depends and, as such, makes specific that which was general. 35 U.S.C. 112; 37 C.F.R. Sec. 1.75(c); Allen Group, Inc. V. Nu-Star, Inc., 197 USPQ 849 (7th Cir. 1978); Ex parte Hansen, 99 USPQ 319 (Pat. Off. Bd. App. 1953). Dependent claims are non-obvious if the independent claims from which they depend are non-obvious. In re Fine, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988); *see also* Hartness International, Inc. V. Simplimatic Engineering Co., 2 USPQ2d 1826, 1831 (Fed. Cir. (1987) to the same effect re novelty). Thus, allowance of a base claim as patentable normally results in allowance of a claim dependent upon that claim. Withdrawal of the rejection is respectfully requested. Applicant reserves the right to address each claim should allowance not be forthcoming.

REFERENCES NOT RELIED UPON BY THE OFFICE

On page 7 of the Action, following the subtitle Conclusion, the Examiner provided a PTO-892 listing 12 other documents, "...not relied upon..." yet alleged "...pertinent..." to the present application. The Action then states: " The documents cited therein teach alternate means for recommending choices to users while navigating data structures."

Applicants believe that these references are not material to the claims of the present application. None anticipates the present invention as none make a disclosure in a single prior art reference of each element of the claims under consideration. Applicant believes that no single reference nor combination has teachings which supports a finding of obviousness nor contains suggestions nor motivation for forming combinations therefrom to support a finding of obviousness. It may be assumed that there are literally hundreds, if not thousands, of patents which would contain something like "...alternate means for recommending choices to users while navigating data structures." Action, Page 7. When a reference can be deemed material merely because it has used the same terms-of-art as the application under examination, then we will have reached the point of the untimely declaration by the former Director of U.S. Patent Office, Charles H. Duell in 1899:

> "Everything that can be invented has been invented."

If provided with specific information as to how the Examiner deems each reference to be "pertinent," applicants would be able to respond more fully with respect to such concerns.

CONCLUSIONS

Based upon the foregoing, it is submitted that the application now presents claims which are directed to novel, unobvious and distinct features of the present invention which are an advancement to the state of the art. Reconsideration and early allowance of all claims is respectfully requested. The right is expressly reserved to reassert any and all arguments, including the raising of new arguments, should a Notice of Allowance not be forthcoming.

Questions or suggestions that will advance the case to allowance may be directed to the undersigned by teleconference at the Examiner's convenience.

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Respectfully submitted,
Hewlett-Packard Company

Eugene H. Valet

Eugene H. Valet
Attorney Reg. No. 31435
425-672-3147 ♫ Fax 425-640-0525

Eugene H. Valet
Valet.Patents@verizon.net
314 10th Ave. South
Edmonds WA 98020[2]//

[2] Do not change formal correspondence address; unless PTO/SB/122 is filed herewith, formal correspondence continues to be directed to Hewlett-Packard per the Declaration